



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/845,666	04/30/2001	William E. McKinzie III	10599/10	2274

757 7590 08/30/2002

BRINKS HOFER GILSON & LIONE  
P.O. BOX 10395  
CHICAGO, IL 60610

EXAMINER
----------

LE, HOANGANH T

ART UNIT	PAPER NUMBER
----------	--------------

2821

DATE MAILED: 08/30/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/845,666

Applicant(s)

MCKINZIE et al

Examiner

HOANGANH LE

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-29 is/are allowed.
- 6) ☒ Claim(s) 1-5, 12-15, 17, 18, 30-34, 38-41, and 44 is/are rejected.
- 7) ☒ Claim(s) 6-11, 16, 19, 20, 35-37, 42, and 43 is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 5 and 6 6) ☐ Other:

### DETAILED ACTION

1. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

#### *Claim Rejections - 35 USC § 112*

2. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, because claim 1 is a single means claim.

#### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Sievenpiper (the WO Patent 01/73893, cited by Applicant).

The Sievenpiper reference teaches in figures 7 and 8 a frequency selective surface 30 having an effective sheet capacitance which is variable to control resonant of the artificial magnetic conductor. The frequency selective surface comprises a single layer of conductive patches 10 disposed on a dielectric layer 24.

5. Claims 1-5,12-15,17-18,30-34,38-41 and 44 are rejected under 35 U.S.C. 102(b) as being anticipated by Daryoush et al (the US Patent No. 4,751,513).

The Daryoush et al reference teaches in figures 2a and 3 an artificial magnetic conductor comprising: a frequency selective surface (FSS) 10,218; a conductive backplane structure 11; a spacer layer 12 separating the conductive backplane structure 11 and the FSS 10,218, the spacer layer including conductive vias 220 extending between the conductive backplane structure and the FSS; and voltage variable capacitive circuit elements 230 coupled with the FSS and responsive to one or more bias signal lines routed through the conductive backplane structure and the conductive vias. The FSS comprises a dielectric layer with a single layer of conductive patches disposed on a side of the dielectric layer (figure 2a). The first predetermined conductive vias 220 are arranged to electrically couple a bias voltage line and respective adjacent conductive patches and second predetermined conductive vias are arranged to electrically couple a ground plane and respective adjacent conductive patches (figure 2a). The conductive backplane structure comprises a stripline circuit with one or more bias control signals routed in between ground planes of the stripline circuit. The conductive backplane structure comprises a stripline circuit and distributed or lumped RIF bypass capacitors inherent in the design of the stripline circuit (figure 3).

*Allowable Subject Matter*

6. Claims 21-29 are allowed.
7. Claims 6-11, 16, 19-20, 35-37, and 42-43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
8. The following is a statement of reasons for the indication of allowable subject matter: none of the cited art discloses a unit cell including in a first plane, a pattern of three or more conductive patches, one conductive patch electrically coupled with an associated conductive via, and voltage variable capacitive elements between selected laterally adjacent conductive patches; and a conductive backplane segment extending in a second plane substantially parallel to a plane including the three or more conductive patches and the associated conductive via extending from the one conductive patch to one of the two or more bias signal lines.

*Correspondence*

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Primary Examiner Hoanganh Le whose telephone number is (703) 308-4921.
10. Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (703) 308-0956.

Application Serial Number: 09/845,666  
Office Action: 1

Art Unit: 2821  
File Paper Number: 7

---

11. Papers related to Technology Center 2800 applications **only** may be submitted to Technology Center 2800 by facsimile transmission. Any transmission not to be considered an official response must be clearly marked "DRAFT". The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Technology Center Fax Center number is (703) 308-7722 or (703) 308-7724.

---

*Hoanganh Le*  
*Primary Examiner*  
*Art Unit 2821*  
*August 26, 2002*

Hoanganh Le  
Primary Examiner